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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington DC 20554

In the Matter of	)	
	)	
Amendment of Section 2.106	)	ET Docket No. 93-59
of the Commission's Rules to	)	RM-8092
Allocate Spectrum For Wind	)	
Profiler Radar Systems	)	

COMMENTS OF SYMBOL TECHNOLOGIES, INC.

1. Symbol Technologies, Inc. ("Symbol") hereby submits these Comments in response to the Notice of Proposed Rule Making and Notice of Inquiry in the above-captioned proceeding.[1/]

I. INTRODUCTION

2. Symbol is the leading manufacturer of portable bar code driven data transaction systems, with some two million scanners and hand-held computers installed. Symbol designs, manufactures, and markets bar code laser scanners, portable computers, and radio frequency data communication networks that are used as strategic building blocks in technology systems for retail, warehousing, distribution, manufacturing, package and parcel delivery, and other industries.

3. Symbol's products include the "Spectrum One" network, a real time data collection system that uses Part 15 spread spectrum transmission in the 902-928 MHz band. Spectrum One and the products that communicate over the network constitute the fastest growing segment of the retail automation market. More

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1/ Wind Profiler Radar Systems, 8 FCC Rcd 2546 (1993) ("Notice").

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than 50% of all new installations of wireless data collection systems are based on spread spectrum technology operating in the 902-928 ISM band. Systems based on the high data rate, as opposed to the low data rate obtained on narrow band licensed channels, have revolutionized this industry. Typical Spectrum One applications include--

-- retail: pricing on the sales floor, inventory control on the sales floor and stock room, and incoming receiving control;

-- warehousing and distribution: at the receiving dock, for pick up and put away, and at the shipping dock;

-- manufacturing: raw material, work in progress, and finished goods, inventory control, production tracking, and quality assurance reporting; and

-- transportation: tracking of shipments so as to reduce lost or misdirected shipments and answer customer inquiries quickly. Transportation markets serviced include passenger airlines, the U.S. Postal Service, and freight trucking firms.

-- wireless store: the entire process of Point Of Sale (POS) checkout is shifting toward distributed processing (small hand-held computers used for checkout, shelf replenishment, customer service, etc.) and wireless communications over spread spectrum networks, which requires a high data rate. Movable POS terminals (cash registers) now operate over Spectrum One, allowing flexibility, cost savings and better customer service.

Spectrum One automates tasks in real time, provides dramatic speed reductions, and increases accuracy. These gains hold down costs (including inventory costs), reduce lost shipments and misplaced items, facilitate "just in time" inventory control for manufacturing and retailing, and permit fast and flexible response to changed conditions. This technology, and others like

it, help the United States to maintain a competitive position in global markets.

4. Symbol has invested more than $83 million in the development of Spectrum One systems and terminals since 1990, has installed Spectrum One networks for more than 120 customers at more than 4000 sites in the United States, and expects to ship in excess of $50 million in Spectrum One networks in 1993. Growth rate over the three years since product introduction has been in the 30-50% range. Overall, industry customers have invested some $300 million in Part 15 radio products at 902-928 MHz alone. The retail industry predicts that a large percentage of existing stores will "go wireless" during this decade, opening up a whole new way of doing business, from pen computers carried by each sales clerk, to portable hand-held POS registers, to movable checkout stations. Every one of these existing (and future) systems is based on spread spectrum technology operating in the 902-928 band. These innovations increase customer service and operating efficiency in one of the largest industries in the U.S. The hundreds of thousands of application-specific devices already shipped are soon to be joined by wireless PBX and wireless Centrex systems and millions of consumer-owned cordless telephones, and no doubt by other products not yet imagined.

II. THE COMMISSION SHOULD NOT LICENSE WIND PROFILER RADAR SYSTEMS IN THE 902-928 MHz BAND.

5. Shared, unlicensed frequency use under Part 15 has been highly successful, particularly with the advent of spread

spectrum technology at 902-928 MHz. Well-engineered Part 15 devices are designed to function properly in an unlicensed environment: While operating within FCC-prescribed limits, they can still accept a reasonable amount of interference without diminishing their capacity to boost users' productivity. Moreover, such devices are able to tolerate incoming interference not only from other Part 15 users and ISM equipment, but also from licensed amateur operators, Government radiolocation, and existing AVM operations.

6. The ability of diverse users to coexist under the Part 15 regulatory scheme has not only directly benefited many industries and citizens but has also advanced the goals of the Commission itself. Equipment is easily available and responsive to customers' needs. The Commission's only regulatory burden is the straightforward process of equipment certification; there is no need to grant and renew licenses, conduct lotteries, maintain [redacted]

nonetheless effectively protects the public from the effects of harmful interference.

7. The Notice seeks comment on whether to allocate spectrum for wind profiler radar systems in the 902-928 MHz band.[2/] Symbol objects to these proposals because they threaten the integrity and reliability of important Part 15 services currently provided in the 902-928 MHz band.

8. To the concerns of Part 15 users about interference to their operations summarized in the Notice, Petitioner Radian responds that because Part 15 users are secondary and not protected from interference from authorized services, they must accept interference from wind profiler radar systems.[3/] But Radian's argument is completely circular -- it commits the logical fallacy of assuming as true the very point to be proven. Being "secondary" in frequency use does not make Part 15 operations secondary in importance to the public interest. To the contrary, in these days of spectrum overcrowding, the Commission should be actively encouraging shared, unlicensed use. Yet adoption of Radian's proposal would have just the opposite effect: It would put the public on notice that any technology operating on a secondary basis cannot be depended upon for long-

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[2/] Notice ¶¶ 14-19. The 902-928 MHz band is also used by amateur operators, the U.S. Government nationwide for radiolocation, Industrial, Scientific, and Medical ("ISM") equipment, and a wide variety of Part 15 applications.

[3/] Notice ¶¶ 17-18.

term service, and that investing in such a technology carries unpredictable and largely unmanageable risks.

9. The Commission has always recognized that its rules are part of the overall context in which businesses make decisions about what services to offer and to buy, which technologies to develop and to use, and how best to invest available resources. Changes in the rules can bear directly on all of these decisions. Symbol submits that the Commission should strive to achieve regulation characterized by "stability, predictability, and protection of the public interest."[4/] While the business community understands that regulations will always be subject to change, it is entitled to expect that any such changes will seek the best balance among all legitimate competing interests. To allocate part of the 902-928 MHz band for wind profiler radar systems would miss that balance by a wide margin by disregarding the public interest in ongoing Part 15 operations.

CONCLUSION

10. Adoption of the proposed rules would threaten operation of Part 15 low-power spread spectrum systems at 902-928 MHz, and would adversely affect users of those systems and their customers in turn. Symbol urges the Commission not to allocate frequencies

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4/ American Tel. & Tel. Co. v. FCC, 836 F.2d 1386, 1394 (D.C. Cir. 1988) (telephone rate regulation).

in this band for wind profiler radar systems, but to accommodate

VERIFICATION

I have read the foregoing Comments of Symbol Technologies, Inc. in ET Docket No. 93-59. I declare under penalty of perjury that the facts stated therein are true and correct to the best of my knowledge and belief. Executed on June 11, 1993.

Raymond A. Martino
signature

Raymond A. Martino
print name

Director RF Engineering
title